

### **REMARKS**

The Office Action of April 4, 2006 has been received and carefully reviewed. Reconsideration of pending claims 1-13 is respectfully requested in view of the following remarks. Applicants note that the Office Action Summary form PTOL-326 indicates that claims 1-17 are pending and that claims 1-17 are rejected, and note that claims 14-20 were previously cancelled and that claims 1-13 are currently pending in the subject application. In addition, Applicants note that claims 1-13 are addressed in the current Office Action of April 4, 2006 are stand rejected, whereby the indications in the summary form PTOL-326 are believed to be a typographical error, wherein reconsideration of the pending claims 1-13 is requested as discussed in greater detail below.

#### **I. REJECTION OF CLAIMS 1, 2, 4, 5, 11, AND 12 UNDER 35 U.S.C. § 102**

Claims 1, 2, 4, 5, 11, and 12 were rejected under 35 U.S.C. § 102 as being anticipated by Reed 4,939,731. Reconsideration and withdrawal of these claim rejections is respectfully requested for at least the following reasons.

Independent claim 1 provides a method of transmitting data, in which a first data rate is determined based on a measured first channel condition at a receiver to which data transmission is intended, and a first data transmission is performed at this first rate. A rate indication message is received indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at a receiver, a second data rate is determined based on the received rate indication message, and a second data transmission is performed as a retransmission of the data at the second data rate. Independent claim 1 and the rejected dependent claims 2, 4, and 5 thus involve receiving a ***rate indication message*** that indicates either ***a channel condition measurement*** at a receiver ***or a data rate***. Reed neither teaches nor suggests the claimed rate indication message, whereby claims 1, 2, 4, and 5 are patentable over Reed for at least this reason. Reed provides a technique for transmitting data signals to receivers, in which the receiver transmits an automatic repeat request (ARQ) message requesting retransmission of any unreceived data, which can include a request for a change in data transmission rate. Importantly, ***the ARQ messages of Reed do not include a channel condition measurement, and do not include a data rate as claimed***. The Office Action on page 3 refers to the ARQ

message in Fig. 5 as well as col. 4, lines 46-65 of Reed, and states that "ARQ indicates channel/transmission quality measurement/detect information and/or changes in baud rate information". The ARQ of Reed appears to include a rate change command, but ***the ARQ does not include a data rate***. Furthermore, the ARQ of Reed might include a rate change request or command, which may be initiated by the recipient if the number of incorrectly received data blocks exceeds a threshold value, but ***the ARQ does not include a channel condition measurement***. The portion of Reed referenced in the Office Action is reproduced below:

Each packet requires individual acknowledgement by the receiving station. In the recipient's reply (ARQ block), the individual R-blocks are acknowledged (effectively by number), and only those in error are retransmitted in the next, constant length packet; the remainder of the packet contains new blocks. If the ARQ packet is corrupted or lost, all blocks are repeated. If the forward packet is not received by the destination, an ARQ packet requesting all repeats is transmitted. To prevent a possible collision between forward packets and ARQ packets, there is a fixed cycle time between each transmission at both the source and destination stations, FIG. 5.

The use of error correction and detection enables a quantitative assessment of the channel to be made. This information is used by the recipient to request data rate changes and, possible, a channel change. Changes in baud rate are initiated only by the destination station, and signalled in an ARQ packet, FIG. 6. Although the baud rate request is shown in this example in the first codeword following the synchronisation block, the request may be contained in any one of the codewords depicted. Each forward packet is transmitted at the last requested baud rate in a received ARQ packet. Message transmission commences at a predetermined baud rate, which is known to both stations. To maximise throughput, the baud rate is increased on a good (low error) channel and decreased on a poor (high error) channel. The recipient will request a lowering of the data rate automatically if the quality factor of received blocks is consistently less than a predetermined threshold. If with the lowest data transmission rate, the quality factor is consistently less than the threshold value, then a change to another frequency channel will be requested. The change of frequency channel will be requested in the first codeword in a similar manner to baud rate request, and a change will be made to a nominated reserve channel.

Reed, col. 4, line 47 through col. 5, line 17. Clearly, this portion of Reed fails to teach or suggest receiving a ***rate indication message*** that indicates either ***a channel condition measurement*** at a receiver ***or a data rate*** as set forth in claims 1, 2, 4, and 5, whereby

reconsideration and withdrawal of the rejection thereof under 35 U.S.C. § 102 is respectfully requested.

With respect to rejected claims 11 and 12, independent claim 11 provides a method of receiving a data transmission, in which a receiver receives a first data transmission at a first data rate, and transmits a ***rate indication message*** if the first data transmission was unsuccessful, wherein the rate indication message ***indicates either a channel condition measurement*** at the receiver ***or a data rate*** based on a channel condition measurement at the receiver. The method of claim 11 further includes receiving a second data transmission at a second data rate, wherein the second data rate is based on the rate indication message. As discussed above, Reed fails to teach or suggest a ***rate indication message*** that indicates either ***a channel condition measurement*** at a receiver ***or a data rate***, whereby Reed does not anticipate claims 11 or 12. On this point, the Office Action at page 4 cites to Reed col. 2, lines 40-51 in addition to the above reproduced portion of Reed. This additional portion of Reed is reproduced hereinafter:

Thus in practice when the system initialises data transmission, a radio station will choose a data rate which is the highest compatible with the noise and interference levels which have previously been determined as present on the communication channel frequency selected by the station. If during transmission the error rate increases because of increased noise levels more than can be dealt with by error correcting codes and repetition of data packets, then ***the receiving station may signal to the transmitting station to change data rate*** to enable clearer determination of received data.

(Reed col. 2, lines 40-51, emphasis added). As can be seen, this additional portion of Reed only refers to a change in data transmission rate, and does not teach a data rate message indicating a data rate. Applications accordingly request reconsideration and withdrawal of the rejection of claims 1, 2, 4, 5, 11, and 12 under 35 U.S.C. § 102 as not anticipated by Reed.

Applicants in this regard note the remarks on pages 14 and 15 in the Office Action, whereat the above portion of Reed col. 4, lines 60-65 is reproduced "The use of error correction and detection enables a quantitative assessment of the channel to be made. This information is used by the recipient to request data rate changes and, possibly, a channel change. Changes in baud rate are initiated only by the destination

station, and signalled in an ARQ packet, FIG. 6." From this passage, however, the Office Action remarkably concludes that the ARQ of Reed contains rate information. Applicants respectfully disagree. The ARQ message of Reed appears to provide a command to the original transmitting device to *change* the data rate to be used in retransmission attempts (i.e., raising or lowering the data rate). However, the Office Action has pointed to no teaching or suggestion in Reed (and Applicants have found no teaching or suggestion) that the ARQ message of Reed indicates a data rate. Applicants submit that ***there is a clear difference between a request to increase or decrease a data rate and a rate itself***. Therefore, the assertion in the Office Action appears unsupported by the cited reference (Reed), and Applicants again submit that Reed does not anticipate or make obvious the claimed rate information message of independent claims 1 and 11. Dependent claims 2, 4, 5, and 12 are not anticipated by Reed for the same reason. Furthermore, dependent claim 5 recites receiving, after the step of determining the first data rate and prior to the step of determining the second data rate, a rate indication message indicating the second data rate for the receiver. Clearly, the ARQ messages of Reed do not include any data rate, and thus cannot be construed as including the second data rate of claim 5, whereby this claim is patentable over Reed for this additional reason. Consequently, claims 1, 2, 4, 5, 11, and 12 are believed to be patentable over Reed 35 U.S.C. § 102, and reconsideration of the rejections thereof is requested.

## **II. REJECTION OF CLAIMS 3 AND 13 UNDER 35 U.S.C. § 103**

Claims 3 and 13 were rejected under 35 U.S.C. § 103 as being unpatentable over Reed in view of Wang 5,838,267. Reconsideration and withdrawal of these claim rejections is respectfully requested for at least the following reasons. Claims 3 and 13 depend from independent claims 1 and 11, respectively, and accordingly involve a rate indication message indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at the receiver. As set forth in the above discussion of claims 1 and 11, Reed neither teaches nor suggests such a rate indication message. The Office Action cites to Wang as disclosing soft combining. However, Wang does not teach or suggest the rate indication message of claims 3 and 13, whereby the proposed combination of Reed with Wang fails to teach or suggest each and every element of these claims. Since neither Reed nor Wang, nor the

combination thereof teaches the claimed rate indication message, claims 3 and 13 are patentably distinct from the proposed combination, and Applicants request reconsideration and withdrawal of the rejections of claims 3 and 13 under 35 U.S.C. § 103.

### **III. REJECTION OF CLAIMS 6-10 UNDER 35 U.S.C. § 103**

Claims 6-10 were rejected under 35 U.S.C. § 103 as being unpatentable over Reed in view of Corke 6,414,938. Reconsideration and withdrawal of these claim rejections is respectfully requested for at least the following reasons. These claims depend from independent claim 1 discussed above, and accordingly include receiving a rate indication message indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at the receiver. Applicants submit that the proposed combination of Reed with Corke fails to teach each and every element of claims 6-10. In particular, Reed does not teach or suggest such a rate indication message. Likewise, Corke fails to teach or suggest this element, wherein the Packet Data Gateway Media Access Control CBSC 105 controls data rate shifting by sending a rate shift command to shift the data rate up or down. However, the rate shift messages of Corke do not appear to include a data rate or a channel condition measurement as in the claimed rate indication message of the present invention. Thus, the proposed combination of Reed with Corke fails to render claims 6-10 obvious, whereby reconsideration and withdrawal of the rejections thereof is respectfully requested under 35 U.S.C. § 103.

### **IV. REJECTION OF CLAIMS 1, 2, 5, 6, 11, AND 12 UNDER 35 U.S.C. § 102**

Claims 1, 2, 5, 6, 11, and 12 were also rejected in a second set of rejections under 35 U.S.C. § 102, beginning on page 8 of the Office Action, as being anticipated by Scheibel 6,212,240. Reconsideration and withdrawal of these claim rejections is respectfully requested for at least the following reasons.

As discussed above in connection with the first set of rejections based on the Reed reference, independent claim 1 and dependent claims 2, 5, and 6 relate to methods for transmitting data, in which a ***rate indication message*** is received ***indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at a receiver***. Moreover, claim 11

provides a method of receiving a data transmission, in which a receiver receives a first data transmission at a first data rate, and transmits a ***rate indication message*** if the first data transmission was unsuccessful, wherein the rate indication message ***indicates either a channel condition measurement*** at the receiver ***or a data rate*** based on a channel condition measurement at the receiver. Scheibel, like Reed, teaches an automatic repeat request (ARQ) system which does not receive a rate indication message indicating either a channel condition *measurement* at a receiver or a data *rate* based on a channel condition measurement at a receiver. With respect to channel quality, the acknowledgement message of Scheibel indicates a quantity of data blocks that were not received, which quantity may be compared to a threshold value. However, this data block quantity in the acknowledgment of Scheibel is not a channel condition *measurement* as in the claimed rate indication message. Furthermore, the acknowledgment of Scheibel does not include a data rate. The Office Action at pages 9 and 10 refers to Scheibel Fig. 3, step 304, and associated descriptive text of Scheibel. However, these passages appear to state only that the acknowledgment indicates a quantity of data blocks that were not received and, therefore does not indicate a channel condition measurement or a data rate. Therefore, like Reed above, Scheibel fails to teach or suggest receipt or transmission of the rate indication message in independent claims 1 and 11, whereby claims 1, 2, 5, 6, 11, and 12 are not anticipated by Scheibel. Reconsideration and withdrawal of the second set or rejections of these claims is therefore requested under 35 U.S.C. § 102.

#### **V. REJECTION OF CLAIM 4 UNDER 35 U.S.C. § 103**

Claim 4 was rejected under 35 U.S.C. § 103 as being unpatentable over Reed in view of Scheibel. Reconsideration and withdrawal of this claim rejection is respectfully requested for at least the following reasons. The method of claim 4 involves the method of independent claim 2, along with an additional step of receiving, prior to the step of determining the first data rate, a rate indication message indicating the first data rate for the receiver. As discussed above, neither Reed nor Scheibel teach or suggest the claimed rate indication message, wherein the proposed combination thereof still fails to teach or suggest all the elements of independent claim 1. Accordingly, the proposed combination also fails to render dependent claim 4 obvious, whereby

reconsideration and withdrawal of the rejection of claim 4 is respectfully requested under 35 U.S.C. § 103.

**VI. REJECTION OF CLAIMS 3 AND 13 UNDER 35 U.S.C. § 103**

Claims 3 and 13 were rejected on pages 11 and 12 of the Office Action under 35 U.S.C. § 103 as being unpatentable over Scheibel in view of Wang. Reconsideration and withdrawal of these claim rejections is respectfully requested for at least the following reasons. Claims 3 and 13 depend from independent claims 1 and 11, respectively, and accordingly involve a rate indication message indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at the receiver. As previously discussed in connection with claims 1 and 11, Scheibel neither teaches nor suggests the claimed rate indication message, wherein the ARQ acknowledgment of Scheibel fails to indicate a channel condition measurement or a data rate. Wang likewise fails to teach or suggest the rate indication message of claims 3 and 13, whereby the proposed combination of Scheibel with Wang fails to render claims 3 or 13 obvious. Applicants therefore respectfully request reconsideration and withdrawal of the second set of rejections of claims 3 and 13 under 35 U.S.C. § 103.

**VI. REJECTION OF CLAIM 7 UNDER 35 U.S.C. § 103**

Claim 7 was rejected under 35 U.S.C. § 103 as being unpatentable over Scheibel in view of Corke 6,414,938. Reconsideration and withdrawal of this claim rejection is respectfully requested for at least the following reasons. Claim 7 depends from independent claim 1 discussed above, and accordingly includes receiving a rate indication message indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at the receiver. Applicants submit that the proposed combination of Scheibel with Corke fails to teach each and every element of claim 7, wherein neither Scheibel nor Corke teach or suggest such a rate indication message. The proposed combination of Scheibel with Corke thus fails to render claim 7 obvious, whereby reconsideration and withdrawal of this rejection is requested under 35 U.S.C. § 103.

**VII. REJECTION OF CLAIMS 8-10 UNDER 35 U.S.C. § 103**

Claims 8-10 were rejected under 35 U.S.C. § 103 as being unpatentable over Scheibel in view of Kameda 5,940,772. Reconsideration and withdrawal of these rejections is respectfully requested for at least the following reasons. In reference to the above discussion, Scheibel neither teaches nor suggests receiving a rate indication message indicating either a channel condition measurement at a receiver or a data rate based on a channel condition measurement at a receiver as per independent claim 1. Kameda likewise does not teach or suggest a rate indication message as set forth in Applicants' claims. As a result, the proposed combination of Scheibel with Kameda fails to render claim 8-10 obvious since the references, alone or in combination, do not teach or suggest each and every element of independent claim 1. Applicants therefore request reconsideration and withdrawal of the second set of rejections of claims 8-10 under 35 U.S.C. § 103.



**CONCLUSION**

For at least the above reasons, the currently pending claims are believed to be in condition for allowance and notice thereof is requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 06-0308, LUTZ200413.

Respectfully submitted,

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